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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,897	09/16/2003	Gail A. Alverson	324758001US3	4520

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EXAMINER
TANG, KENNETH

ART UNIT	PAPER NUMBER
2127	

DATE MAILED: 01/24/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

PTO 90C (Rev 10/03)

	Application No.	Applicant(s)
Office Action Summary	10/663,897	ALVERSON ET AL.
	Examiner	Art Unit
	Kenneth Tang	2127

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on 07 October 2004.

2a)☒ This action is **FINAL**.   2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-7,9-11 and 13-23 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-7, 9-11, and 13-23 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All   b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☐ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 10/7/04.

4)☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ .
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

1.   This action is in response to the Amendment on 9/14/04. Applicant's arguments have

been fully considered but were not found to be persuasive.

2.   Claims 1-7, 9-11, and 13-23 are presented for examination.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed
in the United States before the invention by the applicant for patent or (2) a patent granted on an application for
patent by another filed in the United States before the invention by the applicant for patent, except that an
international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this
subsection of an application filed in the United States only if the international application designated the United
States and was published under Article 21(2) of such treaty in the English language.

3.   Claims 7, 9-10 are rejected under 35 U.S.C. 102(e) as being anticipated by Hogle et

al. (hereinafter Hogle) (US 6,560,626 B1).

4.   As to claim 7, Hogle teaches a method in a computer system for assigning a processor

resource to a thread of a task, the method comprising:

under control of a thread of the task, invoking an operating system call that will block

and wait for the occurrence of an event *(col. 1, lines 33-67)*; and

under control of the operating system, when the call is blocked, invoking a routine of the

task so that the routine can assign the processor resource to another thread of the task *(col. 7,*

lines 63-65).

wherein the processor resource is a stream (resource) of a processor that supports

multiple streams *(col. 1, lines 7-9, and Fig. 1, items 22, 32-34)*.

5.   As to claim 9, Hogle teaches wherein the task registers the routine with the operating

prior to invoking the operating system call *(col. 1, lines 21-22)*.

6.   As to claim 10, Hogle teaches notifying the task when a operating system call completes

(col. 5, lines 47-57 and col. 6, lines 15-21).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7.   **Claims 1-6 and 11, 13-23 are rejected under 35 U.S.C. 103(a) as being unpatentable**

over Hogle et al. (hereinafter Hogle) (US 6,560,626 B1) in view of Jones et al. (hereinafter

Jones) (US 6,584,489 B1).

8.   As to claim 1, Hogle teaches a method in a computer system for returning a stream to a

task executing an operating system call that is blocked, the computer system having a processor

with multiple streams, the method comprising:

under control of the operating system executing on a stream, invoking a function

provided by the task *(col. 1, lines 21-32)*;

under control of the invoked function, executing that stream *(col. 1, lines 32-59)*; and

under control of the operating system, notifying the task when the operating system call

is complete *(col. 5, lines 47-57 and col. 6, lines 15-21)*.

9.   Hogle teaches that thread functions are not available during its blocked state *(col. 1, lines
46-47) but* fails to explicitly teach returning a stream to a task when an operating system call is

blocked. However, Jones teaches task scheduling with returning the requesting thread when it is

blocked *(col. 27, lines 10-22)*. It would have been obvious to one of ordinary skill in the art at

the time the invention was made to include the feature of returning a stream to a task when an

operating system call is blocked because it is desirable to return (or not keep) the threads that are

supposed to be blocked.

10.   As to claim 2, Hogle teaches wherein the notifying includes invoking a function provided

by the task using a stream of the operating system; and

under control of that invoked function, indicating that the operating system call is

complete *(col. 6, lines 15-21)*; and

invoking another operating system call to return the operating system stream to the

operating system *(col. 6, lines 15-21)*.

11. As to claim 3, Hogle teaches wherein the executing of instructions on that stream includes indicating that a thread that invoked the operating system call is blocked and executing another thread on that stream *(col. 7, lines 61-65)*.

12. As to claim 4, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Hogle in view of Jones fails to explicitly teach having separate components performing different actions. However, it is well known in the art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of components performing different actions because this increases structure and organization.

13. As to claim 5, it is rejected for the same reasons as stated in the rejection of claim 2.

14. As to claim 6, it is rejected for the same reasons as stated in the rejection of claim 3.

15. As to claim 11, it is rejected for the same reasons as stated in the rejection of claim 7. In addition, Hogle in view of Jones fails to explicitly teach having separate components performing different actions. However, it is well known in the art and it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the feature of components performing different actions because this increases structure and organization.

16. As to claim 13, it is rejected for the same reasons as stated in the rejection of claim 9.

17.   As to claim 14, it is rejected for the same reasons as stated in the rejection of claim 10.

18.   As to claim 15, it is rejected for the same reasons as stated in the rejection of claim 1.

19.   As to claim 16, Hogleteaches wherein the operating system invokes the first function

using the stream that will block *(col. 2, lines 18-30)*.

20.   As to claim 17, Jones teaches wherein invoking the first function returns the stream to the

user program *(col. 27, lines 10-22)*.

21.   As to claim 18, Hogle teaches wherein the user program selects a thread that is not

blocked for execution on the stream *(col. 7, lines 50-65)*.

22.   As to claim 19, Jones teaches wherein the second function schedules for restarting a

thread that was blocked on the operating system call that was blocked *(col. 6, lines 51-67)*.

23.   As to claim 20, Jones teaches wherein the second function returns a stream provided by

the operating system *(col. 27, lines 10-22)*.

24.   As to claim 21, it is rejected for the same reasons as stated in the rejection of claims 1 and

7. In addition, Hogle teaches executing the operating system call in a user stream of the user

program *(col. 6, lines 22-34)*, when a thread making the operating system call is locked, waiting

for the operating system call to become unblocked *(col. 1, lines 33-45)*, and under control of a

trap handler routine, placing the thread in a blocked pool and selecting another thread to execute

on the stream *(col. 2, lines 13-30 and col. 7, lines 63-65)*.

25.   As to claim 22, it is rejected for the same reasons as stated in the rejection of claim 19.

26.   As to claim 23, it is rejected for the same reasons as stated in the rejection of claim 20.

Response to Arguments

*27.   Applicant argues on page 8 of the Remarks that the Hogle reference does not use the
term "stream" or any language that could possibly correspond to such a stream.*

However, the Examiner respectfully disagrees. Hogle teaches using a resource of a

processor with thread execution in a multi-threaded processing environment *(e.g., col. 2, lines 7-*

10), while Jones teaches the same thing *(col. 22, lines 12-30)*.

Conclusion

28.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure:

  a.   **Peters et al. (US 5,668,993)** discloses a method in a computer system for

assigning a processor resource to a thread of a task, the method comprising: under control

of a thread of the task, invoking an operating system call that will block and wait for the

occurrence of an event; and under control of the operating system, when the call is

blocked, invoking a routine of the task so that the routine can assign the processor

resource to another thread of the task, wherein the processor resource is a stream of a

processor that supports multiple streams.

29.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time

policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE

MONTHS from the mailing date of this action. In the event a first reply is filed within TWO

MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

will expire on the date the advisory action is mailed, and any extension fee pursuant to 37

CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

however, will the statutory period for reply expire later than SIX MONTHS from the mailing

date of this final action.

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The

examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the

organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
1/15/05

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